

WHAT IS CLAIMED IS:

1. A one-way clutch integrated with a rolling bearing in which plural rolling elements and sprags are arranged in an annular space between an inner race and an outer race in each of which a one-way clutch raceway surface is formed in one axial side of a rolling bearing raceway surface, said rolling elements and said sprags make contact with respective raceway surfaces and are respectively housed in pockets formed in a common cage, to be held at predetermined intervals in a circumferential direction, said cage being configured by engaging and integrating two annular members with each other in an axial direction, and said one-way clutch comprises urging means for urging said sprags in a locking direction in said pockets, wherein

an annular flat plate portion which seals one axial end portion of said annular space between said inner race and said outer race is integrally formed in one of said two annular members constituting said cage, at least one radial through hole which passes in a radial direction is formed in said one annular member, and at least one axial through hole which passes in the axial direction is formed in another one of said annular members.

2. A one-way clutch integrated with a rolling bearing according to claim 1, wherein said urging means has a structure in which plural spring pieces that respectively urge

said sprags are integrally formed in an annular flat plate member, and said urging means is attached to an axial outer side of said other annular member to cover said axial through hole, thereby sealing another axial end portion of said annular space.

3. A one-way clutch integrated with a rolling bearing according to claim 1 or 2, wherein each of said annular members constituting said cage is formed by an injection molded resin, and said axial through hole and said radial through hole which are formed in said annular members are mold extracting holes for forming an undercut disposed in an engagement portion between said annular members.

4. A one-way clutch integrated with a rolling bearing in which plural rolling elements for a rolling bearing, and sprags for a one-way clutch are arranged in an annular space between an inner race and an outer race in each of which a one-way clutch raceway surface is formed on an axial side of a rolling bearing raceway surface, with corresponding to said raceway surfaces, wherein

in each of said inner race and said outer race, a step is formed between said one-way clutch raceway surface and a shoulder portion adjacent to said rolling bearing raceway surface, said step being directed in a direction in which a radial dimension of said annular space in said one-way clutch raceway surface is larger than a radial dimension of

said annular space in said shoulder portion.

5. A one-way clutch integrated with a rolling bearing according to claim 4, wherein an inner peripheral face of said inner race and an outer peripheral face of said outer race are fitted to respective counterparts, a radial thickness of a one-way clutch raceway surface forming portion of one of said inner race and said outer race is smaller than a radial thickness of a one-way clutch raceway surface forming portion of another one of said inner race and said outer race, said one of said inner race and said outer race being fitted to one of said counterparts which has higher shape accuracy of a fitting surface with respect to said inner race or said outer race.

6. A one-way clutch integrated with a rolling bearing in which a sprag one-way clutch is integrally formed on a side of a rolling bearing, wherein

a one-way clutch raceway surface with which outer peripheral sides of sprags of said one-way clutch make contact is integrally formed on an axial side of a raceway surface of an outer race of said rolling bearing, and inner peripheral sides of said sprags are to make contact with an outer peripheral face of a shaft which is to be fitted to an inner peripheral face of an inner race of said rolling bearing, thereby conducting torque transmission between said outer peripheral face of said shaft and said one-way

clutch raceway surface of said outer race.

7. A one-way clutch integrated with a rolling bearing according to claim 6, wherein an outer diameter of a portion of said shaft with which the inner peripheral sides of said  
5 sprags are to make contact is approximately equal to an outer diameter of a portion to which said inner peripheral face of said inner race of said rolling bearing is to be fitted.

8. A one-way clutch integrated with a rolling bearing in  
10 which a sprag one-way clutch is integrally formed on a side of a rolling bearing, wherein

a one-way clutch raceway surface with which inner peripheral sides of sprags of said one-way clutch make contact is integrally formed on an axial side of a raceway  
15 surface of an inner race of said rolling bearing, and outer peripheral sides of said sprags are to make contact with an inner peripheral face of a housing to which an outer peripheral face of an outer race of said rolling bearing is to be fitted, thereby conducting torque transmission be-  
20 tween said inner peripheral face of said housing and said one-way clutch raceway surface of said inner race.

9. A one-way clutch integrated with a rolling bearing according to claim 8, wherein an inner diameter of a portion of said housing with which the outer peripheral sides of  
25 said sprags are to make contact is approximately equal to

an inner diameter of a portion to which said outer peripheral face of said outer race of said rolling bearing is to be fitted.

10. A method of producing a one-way clutch integrated with  
5 a rolling bearing in which plural rolling elements and sprags are arranged in an annular space between an inner race and an outer race in each of which a one-way clutch raceway surface is formed axially adjacent to a rolling bearing raceway surface, wherein

10 said inner race and said outer race are processed so that a radial dimension difference between said rolling bearing raceway surface and said one-way clutch raceway surface is within a predetermined tolerance with respect to dimensions that are set respectively for said raceway sur-  
15 faces, and said inner race and said outer race are matched and incorporated so as to obtain an initial radial gap at which, in a state where said inner race and said outer race are fitted to respective counterparts, a radial gap of said rolling bearing has a preset value.

20 11. A method of producing a one-way clutch integrated with a rolling bearing according to claim 10, wherein, in said inner race and said outer race, said rolling bearing raceway surface and said one-way clutch raceway surface are simultaneously ground by a form grinding process using a ro-  
25 tary dresser.